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Monthly Statistical Report

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MARCH 1991

SUMMARY

In this year's first quarter, domestic crude oil production experienced its first year-to-year quarterly increase in five years, while deliveries declined—resulting in a significant drop in the need for imports. Though the underlying trend in imports requirements is estimated to have fallen by perhaps only a third of the 1.5 million B/D, 17.2 percent drop actually experienced, this was still a notable departure from the average increases of about 750 thousand B/D per year of the late 1980s. The remainder of the first quarter's import decline was largely due to differences in inventory behavior between last year and this.

The 1.2 percent, nearly 90 thousand B/D rise in domestic crude oil production was the result of a 4.6 percent increase in Alaska, combined with flat output levels in the lower 48. Enhancements to North Slope production facilities over the past year, combined with an accelerated well-fracturing program, account for Alaska's increase. In the lower 48, increased servicing of existing wells in the latter part of 1990 along with modest gains in drilling helped to moderate the decline trend of the previous five years, which had averaged about 5 percent per year.

Meanwhile, though March deliveries roughly matched those of a year ago, they counterbalanced unusually weak deliveries in the prior month, and the underlying trend in consumption is still believed to be declining. For the quarter as a whole, deliveries' 1.7 percent decrease would have been even larger had it not been influenced by weather considerations. Though the quarter averaged about 10 percent warmer than normal, the year-ago period was warmer still.

Without this transitory influence on demand for heating fuels, we estimate that deliveries for the first three months of this year would have declined about 2.5 percent—roughly in line with the estimated weather-adjusted decline in consumption for the previous quarter. Thus, though retail prices have dropped considerably over the past several months, weakness in the economy apparently continued to dampen petroleum demand during the first quarter.

Refining activity in early 1991 reflected the weakness in domestic demand, with input to distillation units falling 0.7 percent for March and 3.1 percent for the quarter as a whole. With the reduced demand and increased supply in world markets following the Persian Gulf cease-fire, kerosine jet fuel production dropped off noticeably in March, falling by nearly 5 percent versus a year ago.

Total inventories fell 32 million barrels in March, about twice the typical amount and in marked contrast to the unusually large build early last year. Though product stocks remained at the low end of their historical range, crude oil stocks rose to near the middle of their typical 330-350 million barrel range of recent years. Crude oil stocks had previously been drawn down by nearly 65 million barrels between the end of last June and January of this year, when they had reached a recent-year low of 320 million barrels. Gasoline stocks fell 13 million barrels during March—in line with the typical seasonal decline for the month, though month-end levels were at the low end of their historical range.

PRODUCT SUPPLIED [1/]

Gasoline

DELIVERIES STILL FALLING. Though less than February's unusually steep decline, gasoline deliveries' drop in March still amounted to 1.2 percent and brought the decline for the quarter as a whole to 2.1 percent. This was roughly in agreement with estimated trends in travel. The 2.2 percent drop in highway travel for January, the latest data available, likely overstates the decline trend for that series, since travel a year ago had been bolstered by mild winter weather and months immediately prior to January had been showing marginal increases. Nevertheless, it is quite possible that when data for the quarter as a whole become available, a flat to declining trend may be evident for miles traveled. Because of continued gains in average fuel efficiency, this would translate into a decline in gasoline consumption roughly in line with the first quarter's deliveries decline.

With retail prices at or near year-ago levels for the past two months, the continued erosion of gasoline deliveries appears increasingly attributable to the state of the economy rather than to the lagged effect of previous months' higher prices. March's prices, even without adjustment for inflation, were about equal to those one year earlier, despite the rise in Federal excise taxes of about 5 cents and additional increases enacted by a number of states.

	API ESTIMATES MARCH		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	17.1	0.2	16.7	(1.7)
Crude production[2/]	7.6	2.8	7.5	1.2
Total imports[3/]	6.9	(12.2)	7.0	(17.2)
Stocks (million bbl)[4/]	967	(8.9)	na	na

Certainly, the effect of last fall's higher prices on grade switching appears to be diminishing. Unleaded premium, which has typically averaged 18-19 cents per gallon higher than unleaded regular over the past year, had held a 22-23 percent market share in the first part of last year. This quickly shrank to around 16 percent by the time retail prices peaked near the end of the year. By January, premium's share had regained a point or so, and though Department of Energy data are not yet available for more recent months, past market responses to retail price fluctuations suggest that its share may have been approaching 20 percent by March.

Distillates

WEAK DIESEL DEMAND CONTRIBUTES TO DECREASE.

Distillate deliveries fell 3.8 percent for the month and 2.0 percent for the quarter—though the quarter's decline would have been steeper had the weather not been about 10 percent colder than the unusually warm first quarter of 1990. On a weather-adjusted basis, the first quarter drop would have been about 3.5 percent, or a little over 100 thousand B/D.

One major component of that decline is the drop in highway diesel sales, which have slowed in recent months, due primarily to economic factors. Growing at about a 2 percent annual rate prior to the invasion of Kuwait last August, diesel sales are estimated to have declined by about 2-3 percent during the first quarter.

On an annual basis, sales of highway diesel typically account for 40-45 percent of the distillate market. However, this share of the total varies from season to season, ranging from less than a third during some winter months to more than a half during peak summer months. Although this seasonality is mostly due to the winter-peaking nature of heating fuel, it is also the result of the summer-peaking nature of highway diesel—which also serves to moderate the seasonal swings in overall distillate deliveries patterns. Between 1984 and 1989, diesel sales during August were, on average, about 30 percent higher than during January, although seasonal differences in sales are likely more pronounced than in deliveries. Historically, March has been a transitional month, as heating fuel sales drop off and highway diesel sales pick up.

Residual Fuel Oil

PREVIOUS DECLINE FLATTENS IN MARCH.

Despite moderate weather, sluggish electricity demand, and weak conditions in bunker fuel markets, the persistent decline in residual fuel deliveries flattened during March. March's 2.4 percent growth in residual fuel supplied, though partly the result of comparison against weak deliveries a year ago, was a continuation of improvement seen during February. The decline of 12.2 percent (nearly 170 thousand B/D) during the first quarter compares with a 22 percent drop during the last four months of 1990.

Nationwide, weather for March was slightly colder than a year ago. However, in the resid-intense East, temperatures were about 5 percent warmer than last year and about 10 percent warmer than normal. Accompanying the moderate weather in the East was a slight decline in electricity generation there.

More important than weather in explaining changes in resid deliveries over time has been price movement. Because residual fuel competes directly with natural gas (via dual-fired generation) and, to a lesser extent, with coal and nuclear (through utility capacity management and bulk power transfers), resid consumption was hard hit following the Iraqi invasion of Kuwait last August, and the ensuing increase in prices. Between the first of August and the first of January, resid prices rose nearly 30 percent more rapidly than natural gas prices. The change in relative prices was enough to reverse growth in resid deliveries, which, between May and August, had grown by 7.7 percent. However, in recent months, relative price movements have been in the opposite direction. As a result, natural gas prices were about the same at the end of March as the beginning of August, while resid prices were about 10% cheaper.

While no timely data are available on bunker fuel demand, historical figures show a significant correlation between bunker demand and the level of petroleum imports. By weight, petroleum imports have accounted for roughly two thirds of all ocean-borne U.S. imports. With petroleum imports down by nearly a million barrels a day (or 12.2 percent) in March versus a year ago, it is believed that demand for resid as bunker fuel was also weak, although buoyed by relatively strong U.S. exports, particularly capital goods.

Kerosine Jet Fuel

ONLY MAJOR PRODUCT TO INCREASE IN FIRST QUARTER.

Lower prices and recovering air travel contributed to jet fuel's 3.8 percent deliveries' increase during March. Jet fuel supplied has grown by about 5.3 percent over the past two months after declining nearly 7 percent during the previous two. For the first quarter, deliveries were up by about 3.2 percent.

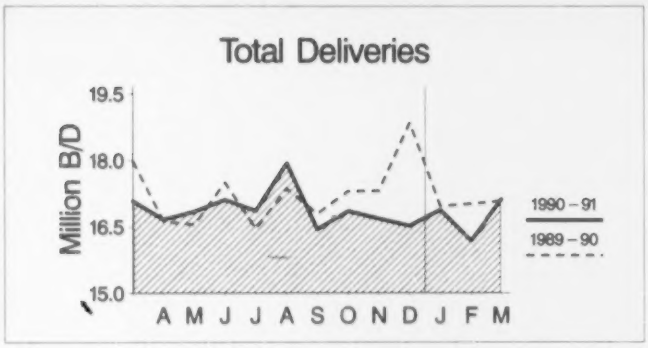
February's cease-fire in the Gulf, coupled with major air fare discounts and incentives, reportedly sparked a return to airline ticket windows by business and leisure travelers during March. However, traffic losses seen in January and February were most likely moderated, rather than reversed, during March. Aircraft miles had been growing by about 5 percent prior to the war, but declined in February by nearly 6 percent. International travel, particularly trans-Atlantic, was hit hard, as double digit growth at the end of 1990 gave way to double digit declines in February. Early reports for March, however, indicate improvement, but with depressed load factors in February and a lag between passenger bookings and passenger travel, March likely brought a bigger increase in passenger travel than in aircraft miles, which we estimate to have been about flat for the month.

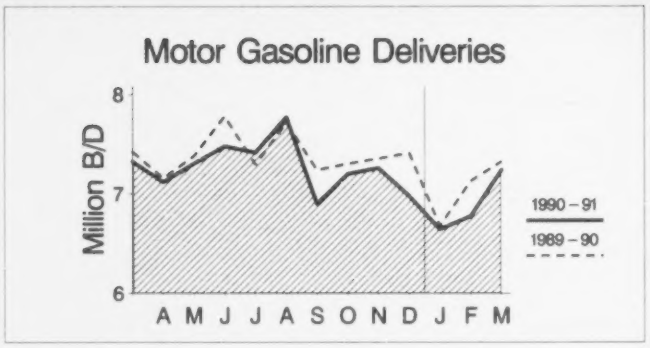
The sharp increases in jet fuel prices last fall were widely reported but, the degree by which prices have fallen over the past five months is equally noteworthy. By the end of March, jet fuel prices in the U.S. had come down by over 60 percent from their October peaks, and while crude prices were about the same at the end of March as the end of July, jet fuel prices were actually 3-5 cents/gallon cheaper.

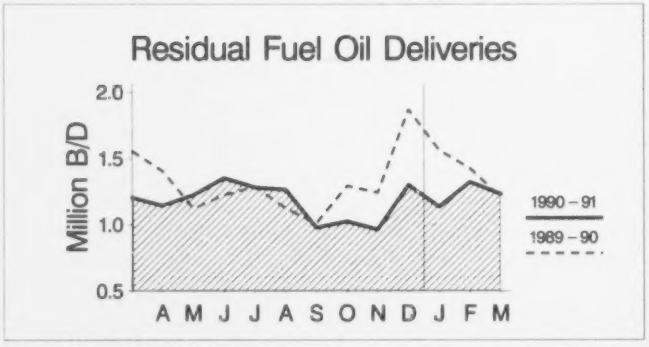
Other Oils

UP VERSUS WEAK LEVELS A YEAR AGO.

For the quarter, deliveries of "other oils" rose 3.3 percent, mostly because of weak deliveries a year earlier. Extremely warm weather at that time depressed heating demand for propane, at a time when sales of ethane for petrochemical use were also slack. Petrochemical feedstock demand has also risen since then, both for ethane and for heavier feedstocks. But, compared with deliveries of "other oils" in more recent quarters, and adjusting for normal seasonal patterns, deliveries for the quarter were essentially flat.







SUPPLY [1/]

Production

FIRST QUARTERLY RISE SINCE 1986. During the first quarter, for the first time in five years for a similar period, quarterly crude oil production rose year to year. The increase amounted to 1.2 percent or nearly 90 thousand B/D. Lower 48 production was essentially flat for the quarter—in contrast with the average 5 percent per year drop experienced in the latter half of the 1980s. In Alaska, production rose 4.6 percent as the effects of facilities enhancements and accelerated well fracturing continued to be evident.

Drilling activity made another modest gain in the first quarter as well. Total completions were up an estimated 4 percent, year to year, following a 5 percent increase for all of 1990, according to API's most recent estimates. The first quarter rise was entirely due to an estimated 18 percent increase for oil well completions; natural gas completions were estimated to have declined slightly, and dry holes, by about 8 percent.

In exploratory drilling, the pattern was similar. Exploratory natural gas completions fell roughly 15 percent, while oil well completions were up close to 20 percent for the first quarter—roughly matching the estimated gain for last year's fourth quarter. Recent overall drilling levels, however, have still been well below levels experienced in the 1980s. In 1981, total completions had reached nearly 90,000, slipping to about 71,000 in 1985 before collapsing in subsequent years to a low of less than 28,000 in 1989. The first quarter's results imply an annual rate of completions of around 30,000.

Imports

TRENDS IN OUTPUT AND DELIVERIES LOWER IMPORTS. Total imports fell 17.2 percent or nearly 1.5 million B/D for the first quarter. Though rising inventories in the year ago period and a decline for this year's first quarter account for a substantial portion of the drop, recent trends in consumption and domestic production also played a significant role, reducing underlying requirements for imports by an estimated half million B/D compared with a year ago. The record draw of about 420 thousand B/D of crude from the Strategic Petroleum Reserve during March also temporarily displaced some imports.

For March, crude oil imports fell 14.5 percent versus a year ago, their eighth consecutive monthly decline. Likewise, product imports also fell; however, growing resid imports and moderating declines in gasoline and distillate imports kept the product drop to 4.7 percent—small by standards of recent months.

The moderating drop in product imports for the month compares with declines of over 40 percent in each of January and February. Much of this apparent shift was simply the result of contrasting import behavior a year ago, when January product imports were considerably above trend and March product imports considerably below. Still, even after adjusting for this, the decline in product imports moderated from the extreme drops in February. Distillate and motor gasoline imports, both down in excess of 60 percent during February, fell 1 and 2 percent, respectively, in March. Furthermore, resid imports, down 34 percent a month ago, actually increased by 14 percent in March. If compared against the trend a year ago, we estimate that total product imports would have declined 10-15 percent.

For crude oil imports, the decline over the past half-year has not been distributed evenly among supplying countries. Surprisingly, during the first six months following the Iraqi invasion, African crude imports into the U.S. fell more dramatically than imports from Persian Gulf nations, as some Nigerian and Angolan crudes headed to European markets. U.S. crude imports from African nations fell an average of 395 thousand B/D during this period versus the first seven months of 1990. Incremental imports averaging 280 thousand B/D from Saudi Arabia, 110 thousand B/D from Western Hemisphere suppliers, and nearly 40 thousand B/D from Malaysia compensated for a portion of the large drop in crudes which had been coming from Iraq, Kuwait, Nigeria and Angola.

Refinery Operations

WEAK DEMAND CUTS REFINERY OPERATIONS.

The weak demand for petroleum products has been readily apparent in refinery activity so far this year. Input to distillation units fell 0.7 percent for March and 3.1 percent for the quarter as a whole. With the reduced military demand for jet fuel and increased availability on world markets following the Persian Gulf cease-fire, kerosine jet fuel production fell from its 1.3-1.4 million B/D range of the past several months to less than 1.2 million B/D in March. Year to year, the dropoff for kerosine jet fuel output amounted to 4.7 percent. Gasoline output rose 0.9 percent, while distillate fuel oil production jumped 9.2 percent.

Inventories

PRODUCTS DOWN, BUT CRUDE NEAR TYPICAL LEVELS.

Total inventories dropped 32 million barrels during March, about twice the historical average for the month. The continued lower-than-typical month-end stocks, nearly 9 percent lower than a year ago, were mainly a reflection of lower product stocks.

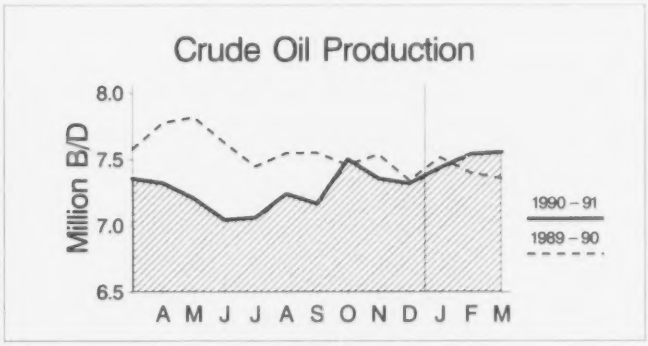
Crude inventories, however, rose 3 million barrels to just below 340 million barrels, near the middle of the typical 330-350 million barrel range of recent years. Crude oil stocks had swung over the past year or so from a recent-year high of 384 million barrels last June to a low of 320 million barrels at the end of January as the draw on domestic stocks compensated for the reduced availability of imported crude following the embargo of Iraqi and Kuwaiti oil last August.

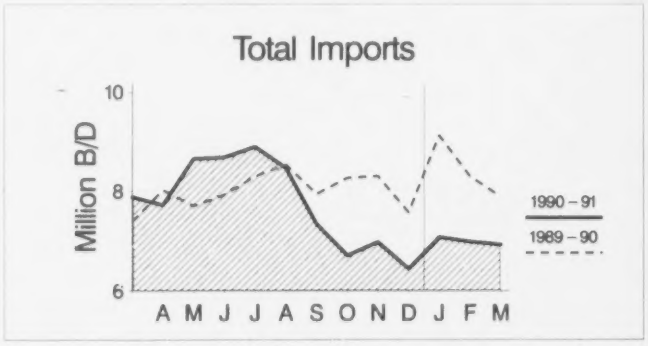
With the heating season essentially over, distillate stocks declined 6 million barrels to 97 million barrels, not out of line with end-of-season levels of recent years. Though gasoline inventory levels at month-end were at the low end of their historical range, the 13 million barrel decline for March was fairly typical for this time of year.

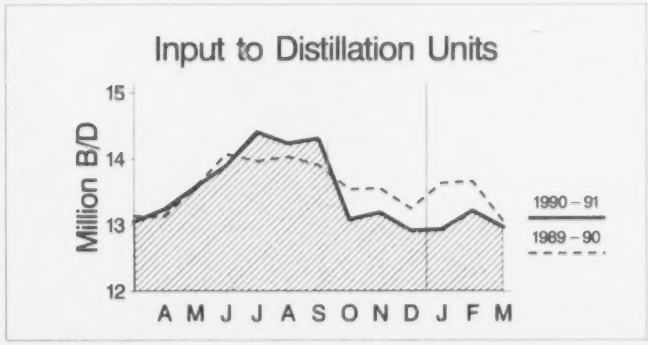
In fact, gasoline inventories have not usually followed the seasonal pattern that some frequently assume—that is, stocks rising in anticipation of the peak summer demand period and then being drawn down substantially over the summer. Though the period of highest gasoline deliveries is June through August, gasoline inventories typically peak in January or February. The largest stock build, running 15 to 20 million barrels, occurs in January, when gasoline demand is the weakest but refinery activity is reasonably strong because of efforts to meet heating-related demands.

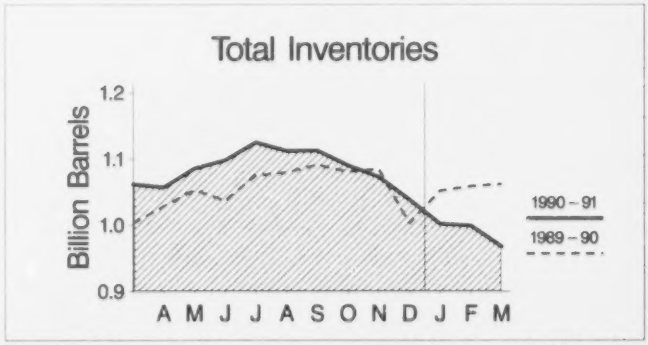
Furthermore, during the spring, rather than rising, gasoline inventories have usually declined—over the previous five seasons, by an average of about 25 million barrels between February and June. The need to clear the system to make room for summer-grade fuel—currently required by federal regulations to be at terminals by May 1 and at service stations by June 1—contributes to the drop.

Finally, over the peak driving season, industry gasoline stocks have averaged only about a 5 million barrel decline, supplying at most about one percent of deliveries. Instead, the seasonal increase in deliveries (about 4 percent above the annual average) has typically been met from higher refinery production rather than from large inventory draws.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 569 million barrels as of March 31, 1991).

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	MARCH			YEAR-TO-DATE		
	1991[1]	1990[2]	% Change	1991[3R]	1990[2]	% Change
Products Supplied:						
Total motor gasoline	7,240	7,325	(1.2)	6,889	7,040	(2.1)
Finished leaded motor gasoline/*	264	443	(40.4)	269	439	(38.7)
Finished unleaded motor gasoline/*	6,976	6,882	1.4	6,620	6,601	0.3
Naphtha-jet	160	165	(3.0)	165	183	(9.8)
Kerosine-jet	1,305	1,257	3.8	1,340	1,298	3.2
Distillate fuel oil	3,140	3,265	(3.8)	3,167	3,230	(2.0)
Residual fuel oil	1,231	1,202	2.4	1,225	1,395	(12.2)
All other oils[4]	4,175	4,015	4.0	4,119	3,986	3.3
Reclassified[5]	-135	-146	(7.5)	-161	-107	50.5
Total domestic products supplied	17,116	17,083	0.2	16,744	17,025	(1.7)
Exports	1,182	881	34.2	1,187	804	47.6
Total products supplied	18,298	17,964	1.9	17,931	17,829	0.6
Supply:						
Domestic production:						
Crude oil[6]	7,552	7,347	2.8	7,507	7,418	1.2
Natural gas liquids	1,612	1,519	6.1	1,621	1,533	5.7
Other supply[7]	1,192	1,319	(9.6)	1,042	1,085	(4.0)
Total domestic supply	10,356	10,185	1.7	10,170	10,036	1.3
Imports:						
Crude oil, total[8]	5,201	6,081	(14.5)	5,361	6,043	(11.3)
Canadian	736	576	27.8	742	586	26.6
Other	4,465	5,505	(18.9)	4,619	5,457	(15.4)
Products, total	1,716	1,800	(4.7)	1,626	2,395	(32.1)
Residual fuel oil	382	334	14.4	416	593	(29.8)
Other	1,334	1,466	(9.0)	1,210	1,802	(32.9)
Total imports	6,917	7,881	(12.2)	6,987	8,438	(17.2)
Total supply	17,273	18,066	(4.4)	17,157	18,474	(7.1)
Stock change, all oils	-1,025	102	******	-774	645	******
Refinery Operations						
Input to crude oil distillation units	12,958	13,047	(0.7)	13,026	13,436	(3.1)
Operable capacity	15,654	15,498	1.0	15,660	15,523	0.9
Refinery utilization (%)[9]	82.8	84.2	(1.7)	83.2	86.6	(3.9)
Crude oil runs	12,877	12,876	0.0)	12,880	13,283	(3.0)

Stocks (millions bbls.)	1991		1990[2]	% Change from	
	Mar. 31[10]	Feb. 28[10]	Mar. 31	Previous Month	Year Ago
Crude oil[8]	339.3	336.1R	373.7	1.0	(9.2)
Unfinished oils	107.1	102.9	109.8	4.1	(2.5)
Total motor gasoline/**	209.3	222.6	228.2	(6.0)	(8.3)
Finished leaded motor gasoline/*	7.9	9.2	13.6	(14.1)	(41.9)
Finished unleaded motor gasoline/*	162.8	172.6	172.5	(5.7)	(5.6)
Naphtha-jet	5.8	5.9	7.1	(1.7)	(18.3)
Kerosine-jet	38.8	42.6	41.9	(8.9)	(7.4)
Distillate fuel oil	97.4	103.3	99.7	(5.7)	(2.3)
Residual fuel oil	43.8	46.0	46.2	(4.8)	(5.2)
All other oils	125.2	139.0R	154.6	(9.9)	(19.0)
Total all oils	966.7	998.4R	1,061.2	(3.2)	(8.9)

/1 Based on API estimated data converted to a monthly basis.
/2 Source: U.S. Department of Energy.
/3 January, U.S. DOE, February-March, API.
/4 Includes crude losses.
/5 Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from the total domestic products supplied.
/6 API estimate; includes lease condensate.
/7 Includes Unaccounted-for crude oil, which reflect withdrawals from the SPR when they occur, processing gain, and Field Production of other of hydrocarbons and alcohol.
/8 Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
/9 Represents "Input to crude oil distillation units" as a percent of "Operable capacity".
/10 Derived by interpolating API weekly stocks data.
/R Revised.
/* Included in motor gasoline.
/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.